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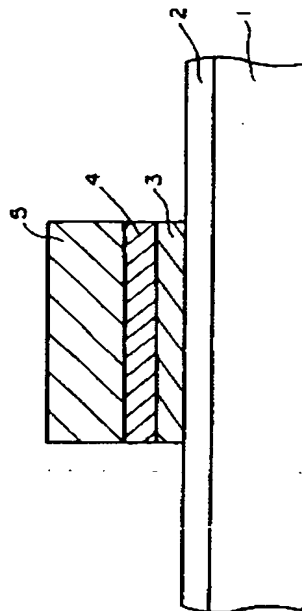
APPLICATION DATE : 10-11-83
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APPLICANT : OKI ELECTRIC IND CO LTD;

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TITLE : FORMING METHOD OF OHMIC
ELECTRODE



ABSTRACT : PURPOSE: To lower contact resistance, to improve the morphology of the surface of an ohmic electrode and to reduce the area of the electrode by forming a first layer for the ohmic electrode having multilayer structure to an N type GaAs layer in an AuGe layer and bringing the thickness of the first layer to 350 \AA or less.

CONSTITUTION: An N type GaAs layer 2 is formed on a semi-insulating GaAs substrate 1. The N type GaAs layer 2 is formed by implanting Si ions at $1.5 \times 10^{13} \text{ doses/cm}^2$, 100keV and activating the ions. An AuGe layer 3, an Ni layer 4 and an Au layer 5 are shaped on the layer 2. These layers 3, 4, 5 are formed through several evaporation in thickness of 300 \AA , 300 \AA and 1,000 \AA and patterning by a lift-off method. An ohmic contact is obtained between the N type GaAs layer 2 and the AuGe layer 3 through ohmic heat treatment. The morphology of the surface is improved by bringing the thickness of the AuGe layer 3 to 350 \AA or less.

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